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(54) Title: METHOD OF RAPID DETECTION OF MUTATIONS AND NUCLEOTIDE POLYMORPHISMS USING CHEMOMETRICS

(57) Abstract: The present invention relates to methods, kits and systems for determining the presence or absence of target polynucleotides through hybridisation with polynucleotide probes comprising a detectable label and subsequent spectral analysis, preferably using multivariate analysis. The analysis of the spectral data allows to determine whether or not the probe is part of a hybrid polynucleotide and thus whether or not the target polynucleotide is present. Furthermore, the analysis of the spectral data allows to determine, when the probe is part of a hybrid polynucleotide, whether or not there is one or more mismatch between the probe and the target. The methods, kits and systems may be used for the determination of mutations and polymorphisms.